REMARKS

Claims 16-22 and 81-106 are pending. Claims 1-15 and 23-80 were previously canceled. Independent claims 16, 81 and 88 were amended to more particularly point out and distinctly claim the present invention, and to improve their form. Claims 20-21, 85-86 and 92-93 were amended to conform to the amendments made to their respective independent claims. New claims 95-106 were added to further define the present invention.

No new matter was entered. The limitations added to claims 16, 81 and 88 are supported by at least the following portions of the present specification:

1. "traffic events are occurrences on the road system which may have an impact on the flow of traffic" - paragraph [0090] on page 10, lines 1-2

2. "the traffic event information is inputted into the processor separately from the flow data related to the traffic flow" - at least Figs. 21-24 and their corresponding text descriptions.

3. "the virtual traffic network indicates both the flow data and the traffic event information" - throughout the entire specification, including paragraph [00119].

New dependent claims 95-106 are supported by at least the following portions of the present specification:

Claims 95-96, 99-100, 103-104: paragraph [00167] on page 27, lines 6-15.

Claims 97, 101, 105: paragraph [0092] on page 10, lines 6-9; paragraph [00115] on page 13, line 23 through page 14, line 2; and paragraphs [00211] through [00215] on page 31, line 31 through page 33, line 11.

Claims 98, 102, 106: paragraph [00136] on page 20, line 21 through page 21, line 4; and paragraph [0228] through [00238] on page 37, line 28 through page 40, line 32.

Interview Summary

Applicants wish to thank Examiner Mancho for extending the courtesy of a personal interview with the Applicant's representative, Frank Kozak, on June 27, 2007. During the interview, the outstanding rejection of the claims over Myr was discussed. Agreement was reached that Applicants' disclosed system distinguished over Myr and Applicants agreed to amend the claims so that the differences are more clearly expresssed.

Drawings

The Examiner stated that there are no submitted drawings. Applicants traverse this statement. The Official Filing Receipt shows that 67 drawings were received and the published application (U.S. Application Publication No. 2004/0143385) includes the 67 drawings. Applicants note that the published drawings do not appear in the USPTO's PAIR Image File Wrapper (IFW), but this appears to be the result of a PTO workflow oversight in processing the received application. To address this issue, Applicants have enclosed a new set of formal drawings for entry into the IFW. This set also has a slightly improved resolution than the originally filed set of formal drawings.

Prior Art Rejection

Claims 16-22 and 81-94 were rejected under 35 U.S.C. § 102(b) as being anticipated by Myr. This rejection is traversed as it pertains to the amended claims for the reasons set forth below.

1. Myr

Myr discloses a vehicle guidance system that uses a plurality of vehicles equipped with mobile guidance units (MGUs) 10, a central traffic unit server (CTU) 5, and a communication system (COS) provided by the telecommunication service provider. The CTU 5 uses GSM/GPS technology or other wireless technology to track the positions of MGUs 10 and provides real time updates to a database of travel times for all roads. In response to a request from a driver for a route update from his present position to a desired destination, the system calculates the desired fastest route by utilizing both the regular travel times along segments of roads and predicted current travel times found by using information collected from tracking routines. Thereafter, the route is communicated to the driver.

Referring to Figs. 11 and 13 of Myr, information zones are established, and a CTU database accepts human operator information inputs regarding the zones (step 277 in Fig. 13).

Fig. 11 shows zones 1-12, and Fig. 13 shows inputs 8-12 regarding theoretical travel times, statistical travel times, current travel times, accident reports and weather reports for zones 1 through N. Zone data updates may then be sent to the MGUs (steps 283, 284 of Fig. 13), such as shown in Fig. 8. The zones in Fig. 11 are merely equally divided subregions of a geographic area, as described in paragraph [0124] of Myr. Roadway sections may or may not traverse through a region and a roadway section is not defined by the zones. For example, a roadway section may span across plural zones, or there may multiple sections within a zone. Therefore, even if a roadway section in Myr could be considered to be a link, the roadway sections shown in Fig. 11 cannot define a plurality of links which are correlated with the zones 1-12. If an operator enters an accident report or weather report into the CTU database of Fig. 13, it merely becomes associated with one of the zones because accident reports and weather reports are entered on a zone-by-zone basis. Accordingly, there is no mechanism in the Fig. 13 apparatus to correlate an accident report or weather report with a particular link of a roadway. The following text in paragraph [0136] of Myr further explains how the CTU database operates (underlining added for emphasis):

> [0136] By utilizing...stored in the CTU database..Everything associated with each particular zone is stored in the CTU database as one structure (Units 8-12): theoretical travel times, regular (statistical) travel times, the updated traffic data associated with category A roads and all necessary data for computation of current travel times, accident and weather reports. After new routes based on zone traffic updates have been prepared (block 283), they are sent to MGUs (block 284).
>
> [0177] Online Traffic Accidents and Weather Reports
> [0178] In this refinement, the CTU database administrator can utilize most recent information on various traffic accidents and road disturbances reported by reliable sources. These are generally reported as static news items and presented in various formats. The administrator can enter these data directly into the CTU database together with the geographical location, time of the event, expected duration, etc. Similarly, the administrator can record all weather reports and road conditions as related to specific regions. These data can then be entered into the CTU database as related to specific zones together with other traffic data as a part of regional or zone traffic report.

In sum, the apparatus of Fig. 13 does not correlate traffic events to links on a road system, as recited in the claimed method, article of manufacture and apparatus.

Furthermore, even if the human operator in Myr identifies the road within the zone that correlates to the traffic event (e.g., accident report) for purposes of generating the travel information (e.g., accident information 189) of Fig. 8, there is still no correlation of the traffic event to links on a road system, as recited in the claimed method, article of manufacture and apparatus.

Figs. 20-24 of Myr disclose route planning algorithms as described in paragraphs [0161] through [0173] of Myr. For example, Fig. 20 shows how to perform a search for an optimal (shortest) route on a graph of roads. The roads in Figs. 20-23 are identified by sections, labeled "r#." However, nowhere does Myr disclose any apparatus for correlating the traffic events (e.g., accident reports and weather reports) that are entered in the Fig. 13 CTU database with the road sections of Figs. 20-23.

Paragraph [0179] of Myr further proposes the following scheme:

> [0179] In additional refinement, specific road disturbances such as road accidents or poor road conditions could also be entered automatically in real time into the CTU database after appropriate verification. The specific road sections where these accidents occurred would be updated automatically and new time coefficients temporarily altered according to a predetermined rating system. Once the road is cleared and report is verified, the original road ratings could be restored to previous status.

However, the road sections referred to in this scheme are not described as being links on a road system, and thus this proposed scheme is not a disclosure of correlating traffic events to links on a road system, as recited in the claimed method, article of manufacture and apparatus. Furthermore, there is no disclosure in Myr of how to implement such a proposed scheme, especially in view of Myr's Fig. 13 CTU database that accepts accident reports only by zone, not by road sections. In addition, the accidents described in this text portion of Myr are only used to temporarily alter time coefficients associated with a road rating. Even if one presumes, *arguendo*, that the road rating is a type of flow data, Myr fails to disclose integrating map data, flow data and traffic event information to produce a virtual traffic network representing traffic

conditions on the road system, wherein the virtual traffic network indicates both the flow data and the traffic event information, as recited in the claimed method, article of manufacture and apparatus.

2. Patentability of claims 16, 81 and 88 over Myr

Amended claim 16 reads as follows (underlining added for emphasis)

> 16. (Currently Amended) A computer-implemented method of creating a virtual traffic network representing traffic conditions on a road system, the method comprising:
> (a) inputting into a processor map data representing a road system, the road system being defined by a plurality of links;
> (b) inputting into the processor flow data related to traffic flow on the road system;
> (c) inputting into the processor information about traffic events, including information that correlates the traffic events to one or more of the links on the road system, wherein the traffic events are occurrences on the road system which may have an impact on the flow of traffic, and the traffic event information is inputted into the processor separately from the flow data related to the traffic flow; and
> (d) the processor integrating the map data, the flow data and the traffic event information to produce a virtual traffic network representing traffic conditions on the road system, wherein the virtual traffic network indicates both the flow data and the traffic event information.

Figs. 21 and 22 show preferred examples of entering traffic events (here, accident and congestion incidents) and correlating the traffic events with links on a road system. Links are described, in part, on paragraph [00167] on page 27, lines 6-15 of the present specification, which reads as follows (underlining added for emphasis):

> [00167] Fig. 15 represents an example of the base layer 312 showing the lowest level of link definitions. A roadway 320 (in this case I-91) is defined as a set of links and nodes. Each link represents a distinct stretch of the roadway 320 between two nodes. A node is where a commuter either needs to make a decision along the roadway 320 or where two or more roadways merge together. In the example of Fig. 15, the link 1201 ends at node 322 where the on-ramp link 321 from roadway 330 (route 121) joins roadway 320. The links 1201 and 321 are connected through node 322 to downstream link 1202. Link 1202 ends at node 324, where there is

> an off-ramp link 323 from roadway 320 to roadway 340 (I-90) and a through link 1203. Each roadway throughout the base layer 312 comprises links and nodes similar to this scenario, including the links and nodes representing traffic in the opposite direction on a split highway or intersections on tertiary roadways.

As discussed above, the CPU database in Myr that receives traffic events (e.g., accident reports and weather reports) for each zone does not correlate the zones with links on a road system. Thus, Myr does not disclose any of the above-highlighted limitations of claim 16. Nor do any other portions of Myr disclose such limitations.

In the paragraph spanning pages 3-4 of the outstanding Office Action, the Examiner highlights paragraph [0136] of Myr as disclosing traffic events such as accidents and weather which are correlated to links on a road system. This portion of Myr describes the CTU database of Fig. 13, and for the reasons discussed above, does not disclose traffic events correlated with links on a road system.

The Examiner further highlights probe vehicle information in paragraph [0100] of Myr as being relevant to this limitation. This paragraph of Myr does not refer to "probe vehicles." However, it is presumed that the Examiner is referring to the probe vehicles that contain MGUs, wherein the travel times of the probe vehicles (as determined from movement of their mobile cell phone units) provide traffic congestion information, apparently referred to in Myr as "bottlenecks," to the CTU database. Paragraphs [0101] and [0148] of Myr describe how congestion/bottleneck information is used (underlining added for emphasis):

> [0101] FIG. 1 is a schematic representation of the information exchange between CTU, MGUs and the GSM Network Server in the Guidance System as described in detail in the Brief Description in the Overview of the Guidance System. The CTU is configured to utilize GSM/GPS or other wireless technology for receiving location data from a fleet of moving vehicles equipped with MGUs that are traveling and thereby passively collecting sample traffic congestion data along a broad range of road systems. Location data are temporarily stored on GSM Network Server in Multiple-GPS Locator Packet (MGLP). The CTU Server accesses the MGLP data on Network Server via Automatic Packet Interrogation process and stores the relevant information. The CTU processes these location data, converts them into travel time data, and stores them in the database

> to be later used as regular travel time data and current travel time data. Those data will be used for calculating fastest routes for the clients.
>
> [0148] FIG. 12 describes calculations of travel times in category A roads. Block 251: Get a section S (in category A) to be processed. Block 252: Read the EXL associated with section S. Block 253: The goal here is to detect bottleneck situations, and to modify estimated Current Travel Time (CTT) accordingly. The criterion for using CTT rather than Regular Travel Times (RTT) for various sections is that EXL contains recent enough data. If 1) latest n vehicles on EXL have left section S within predetermined Time Interval (TI) (short enough to consider the detected bottleneck to be current), and 2) each of them has spent considerably more time on S than the corresponding RTT, then the situation can be interpreted as a bottleneck on the section S. Let t denote the time the vehicle under discussion is expected to commence traveling on S, TE(i) and TEX(i) the entry and exit times respectively for each vehicle V(i), i=1, 2, . . . , N, on the EXL, and the value e denotes a significant change between RTT and the observed travel time (say, e=10% of RTT).

According to the above description, the current travel time is modified when Myr's probe detects congestion, as indicated by a bottleneck. Assuming, *arguendo*, that the current travel time in Myr corresponds to Applicants' claimed "flow data related to traffic flow on a road system," then Myr does not disclose or suggest that anything else is done with the congestion/bottleneck information, other than to modify the current travel time. That is, the congestion data obtained from probes in Myr is used only to calculate flow data. In contrast to Myr, the virtual traffic network in amended claim 16 reflects both the flow data and the traffic event information. Thus, if a congestion incident exists in the method of claim 16, the congestion incident will be indicated in the virtual traffic network, whether or not it is used as part of the flow data. In sum, Myr's congestion disclosure does not meet the claim limitations.

The remaining portions of Myr highlighted by the Examiner were carefully reviewed, including paragraphs [0013]-[0021], [0063-0069], and Figs. 20-23, but none of these portions make up for the above-noted deficiencies in Myr.

Accordingly, it is respectfully requested that the § 102(b) rejection over Myr be withdrawn.

Amended claims 81 and 88 are similar in scope to claim 16 and are thus also believed to be patentable over Myr for the same reasons as applied to claim 16.

3. Patentability of dependent claims

The dependent claims are believed to be patentable over the applied references for at least the reason that they are dependent upon allowable base claims and because they recite additional patentable elements and steps.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. Issuance of a Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectively submitted,

Brian Smyth *et al.*

August 16, 2007 By: Clark Jablon
(Date)

CLARK A. JABLON
Registration No. 35,039
AKIN GUMP STRAUSS HAUER & FELD LLP
One Commerce Square
2005 Market Street, Suite 2200
Philadelphia, PA 19103-7013
Telephone: 215-965-1200
Direct Dial: 215-965-1293
Facsimile: 215-965-1210
E-Mail: cjablon@akingump.com